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**Allen, Dyer, Doppelt,
Milbrath & Gilchrist, P.A.**

— INTELLECTUAL PROPERTY ATTORNEYS —

255 South Orange Avenue • Suite 1401 • Orlando, FL 32801

Mail to: P.O. Box 3791 • Orlando, FL 32802-3791

tel: 407-841-2330 • fax: 407-841-2343

F A C S I M I L E C O V E R S H E E T

TO: EXAMINER OLGA HERNANDEZ (ART UNIT 2144)

CLIENT NUMBER: 51330

TELEPHONE: 571-272-7144

FAX: 571-273-8300

FROM: PAUL J. DITMYER, ESQ.

DATE: September 28, 2005

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COMMENTS/INSTRUCTIONS:

Please see attached Appellant Reply Brief for Application Serial No. 10/719,203.

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SEP 28 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

In re Patent Application of:)
BELL ET AL.)
Serial No. 10/719,203) Examiner: O. HERNANDEZ
Filing Date: NOVEMBER 21, 2003) Art Unit: 2144
For: MOBILE DATA COLLECTION AND) Attorney Docket No. 51330
PROCESSING SYSTEM AND METHODS)

APPELLANT'S REPLY BRIEF

MS Appeal Brief-Patents
Commissioner for Patents
P.O. BOX 1450
Alexandria, VA 22313-1450

Sir:

Submitted is Appellant's Reply Brief in reply to the Examiner's Answer mailed July 28, 2005. If any additional extensions and/or fees are required, authorization is given to charge Deposit Account No. 01-0484.

(1) - (5)

These items are incorporated by reference from the Appeal Brief filed June 13, 2005.

(6) Grounds of Rejection to be Reviewed On Appeal

In view of the arguments presented in the Appeal Brief, the Examiner withdrew the previous rejection of Claims 1-3, 9-14 and 19-21 under 35 U.S.C. § 102(b) as being anticipated by Kimura (U.S. Patent Publication No. 2001/0056326); and the rejection of Claims 4-8, 14-18 and 22-25 under 35 U.S.C. § 103(a) as being unpatentable over Kimura

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(U.S. Patent Publication No. 2001/0056326) in view of Satoh et al. (U.S. Patent No. 6,473,678). These rejections were maintained by the Examiner in two previous Office Actions.

However, contrary to the prohibition of 37 CFR 1.193(a)(2), the Examiner entered a new ground of rejection in the Examiner's Answer mailed July 28, 2005. To proceed with the Appeal, and because the Examiner's new ground of rejection is also improper (for the reasons set forth below), Appellants hereby waive the objection to the impermissible new ground of rejection.

So, now, the grounds of rejection to be reviewed on appeal are: Claims 1-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimura (U.S. Patent Publication No. 2001/0056326); and, Claims 8, 18 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kimura (U.S. Patent Publication No. 2001/0056326) in view of Satoh et al. (U.S. Patent No. 6,473,678) for the reasons set forth on pages 3-5 of the Examiner's Answer.

(7) Argument

Independent Claims 1, 11 and 19 are Patentable Over Kimura

Appellants contend that independent Claims 1, 11 and 19 clearly define over the cited reference, and in view of the following remarks, reversal of the rejection under 35 U.S.C. §103(a) is requested.

As discussed in the previous replies and the Appeal Brief, each of the independent Claims 1, 11 and 19 includes a positioning system in a vehicle to generate position and time data, a down-looking line scan camera to obtain a series of

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line scan images of the road, and associating the line scan images with corresponding position and time data from the positioning system. It is these combinations of features which are not fairly taught or suggested in the cited references and which patentably define over the cited references.

The Examiner has again relied on the Kimura publication (Fig. 1 reproduced below) as disclosing a positioning system, a camera and a controller to associate images with position and time data. The Kimura publication is directed to a navigation apparatus performing a map matching process to determine the road on which a vehicle is traveling.

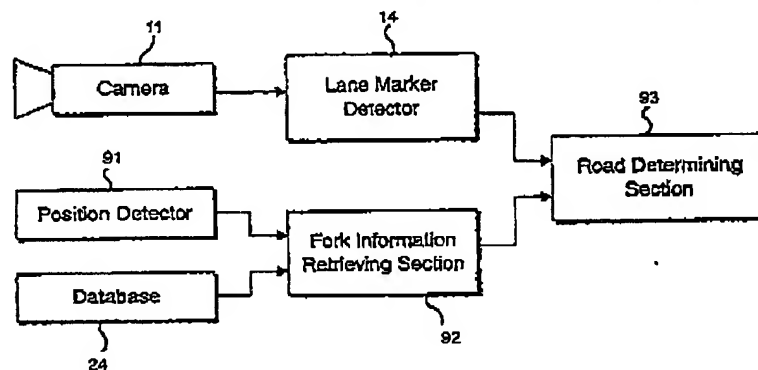


Fig. 1

The system of Kimura uses a CCD camera 11 but there is no mention of a line scan camera, as claimed in the present application. Indeed, nothing in Kimura teaches the association of line scan images with the corresponding position and time data as in the present invention.

As discussed in the present application, the present invention provides a more accurate mobile data collection system and method that can operate at higher speeds with the

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use of a line scan camera and association of line scan images with corresponding position and time data. It is Appellants who discovered the advantages of using line scan images with corresponding position and time data over using conventional CCD area cameras as taught by Kimura.

On page 3 of the Answer, the Examiner asserts that "Kimura's CCD camera is similar to the CCD element in applicant's camera, and a lane marker detector" and that "it would have been obvious to one skilled in the art to construct a formerly integral part structure in various elements [sic] involves only routine skill in the art." Furthermore, the Examiner asserts that "the CCD elements and lane marker detector in applicant's invention provide the same output as applicant's line scan camera."

Again, the Examiner's position and rationale are puzzling. Indeed, the Examiner is asserting that the camera in Kimura is "similar" to Appellants claimed line scan camera, and further, with Kimura's lane marker detector, "provides the same output" as Appellants' camera. Appellants specifically traverse this assertion. Nothing in Kimura, let alone the area camera 11 and lane marker detector 14, can be considered to be a line scan camera, as claimed. Nothing in Kimura, individually or in combination, obtains a series of line scan images of the road, and associates the line scan images with corresponding position and time data from the positioning system, as claimed.

As illustrated in Figs. 14 and 15 of Kimura, camera 11 outputs roadway images of an area of the roadway. These images are clearly not line scan images as claimed. The "lines" referred to by Kimura in paragraphs 0201-0205 are the

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left and right edges 52L, 52R, 53L, 53R of lane markers 52 and 53. Furthermore, the "scanning lines" referred to by Kimura are used in a pixel scanning process within the area images (Figs. 14 and 15) by the lane marker detector to detect lane markers.

In the present invention, the down-looking line scan camera 12 (also known as a broom sweep because of the way it "sweeps" to form an image from a combination of line scans) scans across the road/path 16 as the vehicle 14 travels. Advantages are that because the camera 12 takes images a single scan at a time (e.g. a single line of pixels) the vehicle 14 can travel at higher speeds and collect a smaller volume of data than systems which use an area scan camera. As appreciated by those skilled in the art, the resolution of a line scan camera is approximately ten times higher than an area camera, and image capture speed by a line scan camera is considerably faster than the typical speed of an area camera. Also, in the inspection of a continuous object, e.g. the roadway, it's difficult to get synchronization with an area camera. However, continuous processing is more easily done with a line scan camera because of its video output of each scan.

It appears that the Examiner is misinterpreting the claimed feature of a "line scan camera" to merely be an area scan camera that images lanes on a road. Such an interpretation is inconsistent with the claim language, the present specification and the use of the term "line scan camera" by those of ordinary skill in the field of imaging.

Again, nothing in Kimura teaches the use of a line scan camera or the association of line scan images with the

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corresponding position and time data as claimed in the present application. Accordingly, the rejection of independent Claims 1, 11 and 19 under 35 U.S.C. §103 is inappropriate and should be reversed.

Claims 8, 18 and 25 are also patentable over Kimura in combination with Satoh et al.

Satoh et al. was relied upon by the Examiner as teaching the use of a display. Without discussing any details of the Examiner's obviousness rejections, it is sufficient to again point out that the Examiner has not provided any teaching of the use of a line scan camera or the association of line scan images with the corresponding position and time data as claimed in the present application.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim features. The initial burden is on the Examiner to provide some suggestion of the desirability of doing what the Applicants have done.

Summary

There is simply no teaching or suggestion in the cited references to provide the combination of features as claimed. Accordingly, for at least the reasons given above, Appellants maintain that the cited references do not disclose or fairly suggest the invention as set forth in Claims 1, 11

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and 19, and the Examiner has failed to establish a prima facie case of obviousness. Thus, the rejections under 35 U.S.C. §103 should be reversed.

It is submitted that the independent claims are patentable over the prior art. In view of the patentability of the independent claims, it is submitted that their dependent claims, which recite yet further distinguishing features are also patentable over the cited references for at least the reasons set forth above. Accordingly, these dependent claims require no further discussion herein.

(8) Conclusion

In view of Appellants' reply to the Examiner's arguments, it is respectfully submitted that all of the claims are patentable over the prior art. Appellants, therefore, respectfully request that the Board of Patent Appeals and Interferences reverse the earlier unfavorable decision of the Examiner.

Respectfully submitted,



PAUL J. DITMYER
Reg. No. 40,455
Allen, Dyer, Doppelt, Milbrath &
Gilchrist, P.A.
255 S. Orange Avenue, Suite 1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
Attorney for Appellants

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